

TEARING EYE DOLL

BACKGROUND OF INVENTION

1. Field of Invention:

This invention relates generally to dolls having synthetic eyes capable of simulating tearing activity, and more particularly to a tearing eye doll in which a liquid film is formed over the whites of the eyes and tears are dropped therefrom to create realistic tearing effects.

2. Status of Prior Art:

The human eye is a globular structure that is nested in a bony eye socket. Light is admitted through a transparent outer portion of the supporting globe, referred to as the cornea, the remainder being the white, opaque sclera. Light enters the pupil in the iris which is the colored part of the eye.

In a conventional synthetic eye for a doll, the pupil and iris are represented by a colored disc mounted on white surface which defines the sclera. While it is known to render synthetic eyes for dolls capable of tearing activity, such tearing eyes fail to produce realistic tearing effects.

A doll is often a surrogate for a human baby, and a child playing with a doll usually assumes the role of the baby's mother. Play acting performs an important role in child development, and the most effective dolls are those which simulate reality. This is why dolls which produce crying sounds are appealing, and why dolls capable of tearing also satisfy a child's need for verisimilitude.

Associated with the human eye are two tear ducts located in a corner of the eye socket. Tears keep the exposed part of the eye from drying, for drying would make clear vision impossible. Except when the eyes are closed, water continuously evaporates from the cornea, and the resultant dryness acts as a stimulus to evoke a winking reflex. The momentary closure of the eyes activates the tear ducts to cause liquid to be spread over the eye's surface. Hence in order to simulate in a synthetic eye realistic tearing activity, a water film covering the eye surface must be produced, so that tears well up from the synthetic eye and tears drop therefrom and not from a duct or other outlet displaced from the eye.

The patent to Hogan, U.S. Pat. No. 2,111,507, shows a primitive form of tearing eye doll having a hollow rubber casing, a water reservoir in the head of the doll being defined by a diaphragm. When the doll is squeezed, air pressure is applied to the diaphragm, which in turn imposes pressure on the water to force water through slits at the corners of the eye. The eyes are not covered by a water film and the tears do not well out of the eyes.

U.S. Pat. No. 2,196,912 to Gilbraith is somewhat more sophisticated in its water supply system. But tearing is effected by ejecting water from ducts adjacent the corners of synthetic eyes. In the Senior et al. U.S. Pat. No. 2,675,644, water is expelled through tear ducts adjacent the corners of the eyes. In the weeping doll shown in the patent to Ostrander, U.S. Pat. No. 2,811,810, the eyes are of glass and water is fed into the sockets of the eyes for discharge across the eyelids.

The Zanca et al. U.S. Pat. No. 2,812,615 produces tears by injecting water into a passage between a transparent plastic lens and an eye. In Cohn, U.S. Pat. No. 2,819,560, the weeping doll is provided with an opening to feed water over an eye held in a socket. Similarly, Ostrander, U.S. Pat. No. 2,959,890, supplies water into

a clearance channel in the eye socket. Brudney, U.S. Pat. No. 3,019,551, provides a flexible duct for feeding water into an eye socket.

The patent to Cagen, U.S. Pat. No. 3,758,983, shows an elaborate arrangement for causing a doll to tear only in a horizontal position. The water comes out of the corners of the synthetic eyes, not from the eye itself. And in U.S. Pat. No. 4,339,889 to Guerrero et al., there is a motorized arrangement for ejecting water through a small opening in the eyes.

While all of the above-identified prior art patents produce tearing effects in synthetic eyes, these effects fail to simulate human eye tearing activity and are therefore lacking in realism.

SUMMARY OF INVENTION

In view of the foregoing, the main object of this invention is to provide a tearing eye doll having a pair of synthetic eyes which when a water supply system is actuated, are caused to tear, the whites of the eyes then being covered by a film of water from which tears drop to afford realistic tearing effects.

More particularly, an object of this invention is to provide synthetic eyes whose whites are formed by a porous eye-shaped block through whose pores water passes to emerge from the face of the block to create a water film thereon.

Also an object of this invention is to provide a tearing eye doll of the above type whose water supply system includes a miniature reservoir that is replenished by inserting the spout of a squeeze bottle containing water into an inlet in the open mouth of the doll, whereby a child playing with the doll can bottle-feed the doll.

Still another object of the invention is to provide a tearing eye doll whose water supply system is actuated simply by squeezing an arm of the doll to cause the eyes of the doll to tear.

Yet another object of the invention is to provide a tearing eye doll having a water supply system disposed within the doll which is efficient and reliable in operation, and which when actuated feeds pressurized water to nozzles coupled to the synthetic eyes.

Briefly stated, these objects are accomplished in a tearing eye doll having a pair of synthetic eyes, each formed by an eye-shaped porous block whose face simulates the white of a human eye, and an impermeable disc seated in a recess in the face and colored to simulate an iris and a pupil therein. Received in a cavity within this block behind the disc is a nozzle for injecting water into the block, the water passing through the pores and emerging from the face to form a water film thereon from which tears drop, thereby simulating tearing activity. The eye nozzles are coupled to a miniature water reservoir disposed within the doll. The reservoir is subjected to air pressure by a compressible pneumatic actuator enclosed in a flexible arm of the doll, such that when the arm is squeezed, water is forced into the eye nozzles to produce a tearing action.

BRIEF DESCRIPTION OF DRAWINGS

For a better understanding of the invention as well as other objects and further features thereof, reference is made to the following detailed description to be read in conjunction with the accompanying drawings, wherein:

FIG. 1 is a perspective view of a tearing eye doll in accordance with the invention;